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CLAIMS:

1.   A method for providing seamless AB loop play in a reproducing apparatus
(100), the method comprising the acts of:
         receiving a command (103) to enter an AB loop play mode, said command
(103) including at least a starting point parameter A and a terminating point parameter B;
         identifying a set of N data blocks stored on a storage medium(101),
responsive to said command (103);
         retrieving said N data blocks from said storage medium (101);
         storing said N data blocks in a memory;
         reading said N data blocks from said memory (104) in a first presentation
cycle of said AB loop play mode;
         presenting said N data blocks to a user in said first presentation cycle of said
AB loop play mode;
         deleting a first subset of data blocks P from among said stored N data
blocks from said memory (104) subsequent to reading said first subset P of data blocks
from said memory (104); and
         retaining a second subset of data blocks M from among said stored N data
blocks in said memory (104) subsequent to reading said second subset of data blocks from
said memory (104) for use in one or more subsequent presentation cycles of said A-B loop
play.

2.   The method of Claim 1, further comprising the acts of:
         retrieving said deleted first subset of data blocks P from said
storage medium (101) for use in said one or more subsequent presentation cycles of said
A-B loop play; and
         presenting said retrieved first subset of data blocks P and said retained
second subset of data blocks M to said user in said one or more subsequent presentation
cycles of said AB loop play.

3.   The method of Claim 1, wherein said request further comprises an

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identifier of at least one data block to be retained from among said second subset of data blocks M to be retained in said one or more subsequent presentation cycles of said AB loop play.

5   4.   The method of Claim 1, further comprising the act of identifying at least one data block to be retained from among said second subset of data blocks M to be retained, wherein said identification is made in dependence upon knowledge of disc retrieval times of at least one data block from among said N data blocks.

10   5.   The method of Claim 4, wherein said knowledge of said disc retrieval times is a knowledge of higher than average disc retrieval times of said at least one data block from among said N data blocks.

      6.   The method of Claim 1, further comprising the act of identifying at least
15 · one data block from among said second subset of data blocks M to be retained in dependence upon an allocation profile of said N data blocks on said storage medium (101).

      7.   The method of Claim 6, wherein said dependence upon said allocation profile includes a dependence upon discontinuities in said allocation profile.

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      8.   The method of Claim 1, wherein the act of retaining said second subset of data blocks M in said memory (104), further comprises the act of retaining the first X blocks from among said N data blocks retrieved from said memory (104) in said one or more subsequent presentation cycles of said AB loop play.

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      9.   The method of Claim 2, wherein said first subset of data blocks P to be retrieved and second subset of data blocks M to be retained are determined such that a calculated time to retrieve said first subset of data blocks P in said one or more subsequent presentation cycles is below a threshold time.

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      10.   The method of Claim 9, wherein said threshold time corresponds to a time below which a memory (104) buffer underflow cannot occur.

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11.   The method of Claim 9, wherein said calculated time is computed in
dependence upon pre-supplied data included in said request identifying at least one of said
data blocks M to be retained in said one or more subsequent presentation cycles of said AB

5   loop play.

12.   The method of Claim 9, wherein said calculated time is computed in
dependence upon knowledge of certain of said data blocks M from among said N data
blocks having a higher than average retrieval time.

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13.   The method of Claim 9, wherein said calculated time is computed in
dependence upon an allocation profile of said N data blocks on said storage medium (101).

14.   The method of Claim 13, wherein said dependence upon said allocation
15   profile includes a dependence upon discontinuities in said allocation profile.

15.   The method of Claim 2, wherein said first subset of data blocks P and said
second subset of data blocks M are determined such that a calculated time to retrieve said
first subset P in said one or more subsequent presentation cycles minimizes the number of
20   occurrences of a memory buffer underflow

16.   The method of Claim 15, wherein said calculated time is computed in
dependence upon pre-supplied data included in said request identifying at least one of said
data blocks M.

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17.   The method of Claim 15, wherein said calculated time is computed in
dependence upon knowledge of certain data blocks from among said N data blocks having
an associated higher than average retrieval time.

30   18.   The method of Claim 15, wherein said calculated time is computed in
dependence upon an allocation profile of said N data blocks on said storage medium (101).

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19.   The method of Claim 18, wherein said dependence upon said allocation profile includes a dependence upon discontinuities in said allocation profile.

20.   The method of Claim 1, wherein said first subset of data blocks P and said second subset of data blocks M are determined such that a calculated time to retrieve said first subset P in said one or more subsequent presentation cycles is sufficient to prevent a memory buffer underflow except at a boundary transition from a terminating point defined by a terminating point parameter B to a starting point defined by a starting point parameter A in said one or more presentation cycles.

21.   The method of Claim 20, wherein said calculated time is computed in dependence upon pre-supplied data included in said request identifying at least one of said data blocks M.

22.   The method of Claim 20 wherein said calculated time is computed in dependence upon knowledge of certain data blocks from among said N data blocks having an associated higher than average retrieval time.

23.   The method of Claim 20, wherein said calculated time is computed in dependence upon an allocation profile of said N data blocks on said storage medium (101).

24.   The method of Claim 23, wherein said dependence upon said allocation profile includes a dependence upon discontinuities in said allocation profile.

25.   A method for providing seamless AB loop play in a reproducing apparatus, the method comprising the acts of:
        retaining, in a memory (104), a first subset of data blocks M from a sequence of N data blocks in one or more presentation cycles of said AB loop play mode; and

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retrieving, from a storage medium (101), a second subset of data blocks P
from said sequence of N data blocks in said one or more presentation cycles of said AB
loop play mode,

wherein said first subset of data blocks M and said second subset of data
5   blocks P collectively comprise N data blocks to be displayed in said one or more
presentation cycles of said AB loop play.

26.   The method of Claim 25 wherein said calculated time is computed in
dependence upon pre-supplied data included in said request identifying at least one of said
10   data blocks M.

27.   The method of Claim 25, wherein said at least one data block from among
said first subset of data blocks M is identified in dependence upon knowledge of certain of
said M data blocks having a higher than average retrieval time.

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28.   The method of Claim 25, wherein at least one data block from among said
first subset of data blocks P is identified in dependence upon an allocation profile of said N
data blocks on said storage medium (101).

20   29.   The method of Claim 28, wherein said dependence upon said allocation
profile includes dependence upon discontinuities in said allocation profile.

30.   The method of claim 25, wherein said first subset of data blocks M and
said second subset of data blocks P are determined such that a calculated time to retrieve
25   said first subset P of data blocks in said one or more presentation cycles minimizes the
number of occurrences of a memory buffer underflow.

31.   The method of Claim 25, wherein said first subset of data blocks P and said
second subset of data blocks M are determined such that a calculated time to retrieve said
30   first subset P of data blocks in said one or more subsequent presentation cycles is sufficient
to prevent a memory buffer underflow except at a boundary transition from a terminating

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point defined by a terminating point parameter B to a starting point defined by a starting
point parameter A in said one or more presentation cycles.

32.   A playback apparatus for providing seamless AB loop play in a
reproducing system, the apparatus comprising:
                a memory (104) configured to store a subset of N data blocks;
                a presentation mechanism (106) configured to read said stored data blocks
from said memory (104) for display to a user in a plurality of successive AB loop
presentation cycles;
                a controller (102) configured to retrieve said N data blocks from a storage
medium (101) to be stored in said memory (104), receive and process requests to enter said
AB loop play, initialize the presentation mechanism (106) to perform said AB loop play;
                the controller (102) being further configured to remove a first subset of data
blocks P from the memory (104) subsequent to being read by the presentation mechanism
(106) and retain a second subset of data blocks M in the memory (104) subsequent to being
read by the presentation mechanism (106).

33.   The playback apparatus of Claim 32, wherein said controller (102)
identifies said first subset of data blocks P and said second subset of data blocks M such
that a calculated time to retrieve said first subset of data blocks P from said storage
medium (101) in said plurality of successive AB loop presentation cycles is below a
threshold time.

34.   The playback apparatus of Claim 33, wherein said threshold time
corresponds to a time below which a memory buffer underflow cannot occur.

35.   The playback apparatus of Claim 32, wherein said controller (102)
identifies at least one data block from among said second subset of data blocks M in
accordance with pre-supplied data included in said request.

36.   The playback apparatus of Claim 32, wherein said controller (102) is further
configured to identify at least one data block from among said second subset of data blocks

M in dependence upon knowledge of certain of said M data blocks having an associated higher than average retrieval time.

37.   The playback apparatus of Claim 32, wherein at least one data block from among said first subset P of data blocks is identified in dependence upon an allocation profile of said N data blocks on said storage medium (101).

38.   The playback apparatus of Claim 33, wherein said dependence upon said allocation profile includes a dependence upon discontinuities in said allocation profile.

39.   The playback apparatus of Claim 32, wherein said first subset of data blocks M and said second subset of data blocks P are determined such that a calculated time to retrieve said first subset P of data blocks in said one or more presentation cycles minimizes the number of occurrences of a memory buffer underflow.

40.   The playback apparatus of Claim 32, wherein said first subset of data blocks P and said second subset of data blocks M are determined such that a calculated time to retrieve said first subset P of data blocks in said one or more subsequent presentation cycles is sufficient to prevent a memory buffer underflow except at a boundary transition from a terminating point defined by a terminating point parameter B to a starting point defined by a starting point parameter A in said one or more presentation cycles.